

Notice of Allowability

Application No.

09/746,647

Examiner

Charles A Harkness

Applicant(s)

COOK ET AL

Art Unit

2183

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address—

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 19 October 2004.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 26 February 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Roy W. Truelson, Reg. No. 34,265, on 01/06/05.

In the claims:

Claim 1, line 17, change "in unison to a next stage within said asynchronous pipeline." to --in unison to a next stage within said asynchronous pipeline, wherein passing of each said data tag value and the data set to which said matching data tag value is assigned to respective next stages of said plurality of pipeline stages within said asynchronous pipeline is not synchronized to a common global clock signal.--.

Claim 8, line 17, change "asynchronous pipeline." to --asynchronous pipeline, wherein passing of each said data tag value and the data set to which said matching data tag value is assigned to respective next stages of said plurality of pipeline stages within said asynchronous pipeline is not synchronized to a common global clock signal.--.

Claim 15, line 16, change "matches a control tag value associated with the stage transition." to --matches a control tag value associated with the stage transition, wherein advancing of each data

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set and its corresponding data tag to respective successive stages of said plurality of ordered stages of said pipeline is not synchronized to a common global clock signal--.

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance: Janik has taught an asynchronous pipeline, with a plurality of stages, and a data path and a control path, assigning a data tag to each set of data, and where the data tag and the data pass through the control path, and the data path, respectively, in unison, comparing the data tag with an instruction, and in response to a match while comparing, passing the data tag and data on to the next stage and passing the data on to the next respective stage asynchronously, without use of a global clock. Chu, U.S. Patent Number 5, 920, 899, (herein referred to as Chu) has taught an asynchronous pipeline, with a plurality of stages, with a data path, and control mechanism, and passing the data on to the next respective stage asynchronously, without use of a global clock. However, neither Janik, nor Chu, or any previously mentioned prior art has taught individually, or in combination, an asynchronous pipeline, with a plurality of stages, and a data path and a control path, assigning a data tag to each set of data, and where the data tag and the data pass through the control path, and the data path, respectively, in unison, where the data tag value is always in the same pipeline stage as the data set to which the data tag is assigned, comparing the data tag with an instruction, and in response to a match while comparing, passing the data tag and data on to the next stage and passing the data on to the next respective stage asynchronously, without use of a global clock, as described in the claims and the remarks from 6/24/04.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A Harkness whose telephone number is 571-272-4167. The examiner can normally be reached on 9Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on 571-272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

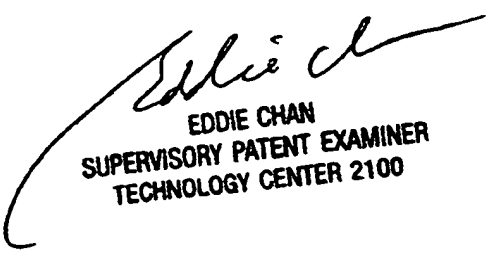
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles A Harkness

Examiner

AU 2183

January 7, 2005


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